COMMERCIAL USER'S GUIDE TO THE INTERNET NEWSLETTER

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At Work on the Net:

Recycling Goes Global With Help From the Internet

Some 20,000 companies in the U.S. alone are in the business of recycling used resources—everything from oil and glass to paper and rubber. Another 9,000 deal in used computers, and several thousand buy and sell used construction equipment. All these companies take excess inventory, industrial waste, and used equipment, then reprocess or resell it to companies that can't afford new goods and equipment.

Into this huge lucrative market enter the Global Recycling Network (GRN), based in Brookhaven, N.Y., an Internet-based enterprise founded by Enrico Sala in 1994. Sala envisions the GRN as the global marketplace in which companies with old or excess equipment can sell directly to manufacturers that can't afford or don't need new goods. GRN wants ultimately to serve as the equipment exchange between developing and developed economies. By facilitating direct trading over the Internet, GRN seeks to capture the market currently served by the tens of thousands of businesses worldwide that provide brokerage services to the recycling industry.

Reaching the World

GRN is based on an Internet tool called Telnet, not on the trendier World Wide Web. The Web, with its hyperlinks and embedded graphics, is "future science," says Sala, for the countries such as Russia, the Ukraine, and China that GRN is trying to reach. Telnet requires only a phone connection and limited access to the Internet, not the bandwidth, complex software, and powerful computers required to take advantage of the Web.

Telnet gives a user access to the computing power of a remote computer, in this case, access to the GRN database of leads—things to buy and sell. With Telnet, a user in Afghanistan in the market for used machinery can search for leads, while a German customer

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Mosaic Wars (Update):

Netscape Routs the Competition

The November 1994 newsletter carried a story called "Mosaic Wars" about the competition then brewing in the Web-software market, especially between Spry Inc. and Mosaic Communication Corp. (MCC). But things happen fast on the Net. The war's turned into a rout, for now, and the winner is not even called Mosaic.

Statistics gathered at a major Web site (see Browser Statistics) and corroborated by other sites (see Informal Browser Surveys) show that Netscape, little known in October, when a free beta version of the software was made available, has captured two-thirds of the browser market. This capable browser, now released and still freely available for noncommercial use from FTP servers around the globe, is the creation of the former MCC. (The company recently changed its name to

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Microsoft Shows Its Hand

Opinion

Microsoft created quite a stir in mid-January when it announced two details of its broad plan to provide Internet access for potentially millions of users of its new operating system, Windows 95. First, Microsoft has acquired a minority stake in UUnet, a leading access provider, based in Falls Church, Va. UUnet's national digital network will be Microsoft Network's gateway to the Internet—and Microsoft's vehicle for delivering "full" Internet access to its users. Second, Microsoft will be licensing NCSA Mosaic from Spyglass Inc. The great vendor of PC software has just become potentially the biggest vendor of Internet software.

UUnet, until now a commercial user's network, will now be the network of perhaps millions of consumer users of Windows 95, who will dial in via Microsoft Network, a consumer network that will be filled with Microsoft content. This is not good news for UUnet competitors such as PSI.

As for the software, Microsoft can be expected to build a browser that works with other Microsoft applications, a conjecture justified by the company's decision to bundle Internet Assistant with Word. With seamless access to the Internet and the integration of Net tools into standard productivity applications, Microsoft could hasten the creation of a truly mass market on the Net—good news for commercial users.

Realists, however, should see at least four reasons to doubt whether Microsoft will control the Internet in the same way it has controlled other markets:

1. Mosaic is no longer the browser of choice on the Net. Since its commercial release in December, Netscape has usurped that role (see p. 1). Furthermore, business users should ask whether Microsoft will build a browser that conforms to emerging HTML and security standards, or whether it will seek to impose its standards on the industry, much as it has done with Windows itself. Microsoft's past will not comfort standards supporters.

2. People familiar with Microsoft history know that the company *can* make great software, but also that its "version 1.0's" have been buggy underperformers (witness Windows itself—a dog until version 3.1, and still far from perfect—Word 1.0, and Access 1.0). Will Windows 95 and Mosaic work as promised, or must we wait for version 95.1x and Mosaic 1.1?

3. UUnet and America Online are currently not priced aggressively for the consumer Internet market. A consumer or small business running Netscape and using an access reseller is getting more out of the Internet for less than the comparable user getting partial access through a commercial service or paying $3 an hour for SLIP from UUnet. Will Microsoft and UUnet slash prices? Or will they charge a premium for providing transparent access to the Net?

4. In a season of surprises Microsoft's announcements were probably not the last. Where are AT&T and the regional phone companies? Their entry into the Internet access business, joining MCI and the commercial services—America Online, Compuserve, and now Prodigy, all of whom are promising subscribers access to the World Wide Web—should quash any monopolistic fantasies in Redmond.

Microsoft will make a big difference on the Internet, but don't look for its big plans to bear fruit this year. When Bill Gates does create a beach-head on the Net, he may face his toughest competition to date. ◆

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Unisys Presses Patent Claim, Squeezing Compuserve

The World Wide Web owes much of its appeal to images. With Mosaic you can see pictures of everything from the Schumaker-Levy comet to Socks the cat. An image is just a file, and the prevailing types of file used on the Web are GIF (Graphics Interchange Format) and the JPEG (Joint Photographic Experts Group) format.

GIF was introduced by Compuserve Information System (CIS) in 1987 and licensed to the CIS development community to create both images and the utilities for creating, displaying, and manipulating them. From the CIS community, the GIF format—both the image specification and the compression scheme it uses to keep the image as small as possible—found their way into the Web development community. GIF is now the prevailing standard for publishing images on the Web.

Unfortunately for CIS, Unisys, a maker of mainframe computers, had a patent claim on the "LZW" compression scheme used in the GIF specification, even though the compression scheme was published by a Unisys engineer. In January 1993 Unisys lawyers warned that CIS might have violated the Unisys patent, and after 18 months of wrangling CIS recognized the merits of the Unisys claim.

On Dec. 29, 1994, CIS, after agreeing to pay a substantial upfront fee plus a monthly royalty to Unisys, announced that it would extend protection from Unisys's patent claim to those members of the CIS development community who use the LZW technology in GIF utilities—for a nominal "royalty" fee of $1 plus a few pennies for each copy of software sold and registered. Not affected are end users and those developers who don't acknowledge the Unisys claim. Non-CIS developers—the community of Web developers—are not protected by the umbrella LZW license Unisys has offered CIS, according to Bob Parsley, product manager in the interface products group at CIS and the liaison between CIS and the GIF developers' community.

The deal with Unisys is costing CIS money and hurting its image in the Internet community at the very moment that CIS is seeking to radically expand its Internet services (see January 1995 newsletter, p. 1).

The result? Look for a flight from GIF in the non-CIS (Web) developers community, the increased use of JPEG at Web and FTP sites, and the emergence of a new graphics standard based on public-domain specifications. Finally, CIS has committed itself to helping create a new 24-bit, open, GIF specification, and is soliciting suggestions at **gif24@csi.compuserve.com**. ◆

What's the difference between GIF and JPEG?

JPEG is the standard format for storing photographic images as computer files, and a photo stored as a JPEG is significantly smaller than a GIF of the same photo. JPEG is also considered a better format for storing color images, because it is 24-bit instead of 8-bit, like GIF. But GIF remains the general-purpose standard for storing images, with dozens of software products available for creating, viewing, and manipulating GIF images, and it does have its advantages.

For non-photographic images GIF is typically used when there is concern about resolution loss when an image is digitized and encoded, which can result in loss of clarity in JPEG images. GIF *captures* more image clarity and is therefore able to render more clarity when decoded.

Washington Chapter of Internet Society Planned

Nobody runs the Internet, it's often said, but no single organization has more influence in defining the Net's architecture and technical standards than the Internet Society (ISOC), based in Reston, Va. Yet, ISOC has had a vague global mandate coupled with no real control of anything. And as an international organization, it is unable to take positions on national policies that nonetheless have an impact on the global Net.

Now, on the initiative of Vint Cerf and Tony Rutkowski, ISOC president and executive director respectively, a chapter of ISOC is being created in Washington DC. Starting the chapter wasn't a response to the recent Republican landslide, says Russ Haynal, director of business development at Mindbank Consulting Group and one of a handful of Washington professionals chosen to hold the first organizational meeting in October—before the Republicans swept into Congress. The chapter is more of a response to ISOC's desire to have presence and influence in Washington while maintaining its global coordinating role, Haynal said.

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Internet Society . . .

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The chapter's chief goal will be to educate Congress and federal agencies about the impact on the Net of planned legislation and regulations. It will, for example, play out the likely consequences of prohibiting the export of encryption technologies and evaluate the status of intellectual property rights in an environment of universal access. Unlike the global ISOC the Washington chapter will be able to take positions and make statements affecting "local"—U.S.—issues that affect ISOC's larger goal of seamless global networking.

Why Washington? Known as "Netplex" since a *Fortune* article in early 1994, the District has a unique concentration of Internet providers, Internet professionals, and people interested in the policy aspects of the information age, says Haynal. And of course, it's where policy is made. The ISOC chapter will serve as a membership organization for the Internet community as well as an educational resource for the govenment.

Other ISOC chapters are being formed in San Francisco and New York, and can be expected, sources say, to contribute to the policy analysis of proposed bills affecting the Pacific rim and secure financial transactions, respectively. A Japan chapter has already been created. The Washington chapter is planning a March kickoff.

To find out about the Internet Society, you can visit the ISOC servers on the Internet at **gopher.isoc.org** (Gopher) or **http://www.isoc.org** (Web). ◆

TeleDiplomacy Plans to Wire Washington's Embassies

The current distribution of networks and resources can give the impression that the Internet is an American institution. Yet in its global scope the Internet offers global opportunities as well. For now, however, the global dimensions of the Net may be more obvious to noncommercial organizations such as governments and their embassies.

A new company called TeleDiplomacy Inc. will soon be offering embassies in Washington, D.C., Internet services so that they can distribute and collect information and reach their key audiences more effectively. The company's founder and visionary is Dr. Ross Stapleton-Gray, an information-technology analyst for six years with the CIA, a member until October of the White House Information Infrastructure Task Force, and one of the founders of the new Washington chapter of the Internet Society (see article on p. 3).

TeleDiplomacy will help embassies reach multiple audiences: U.S. citizens interested in travel abroad; U.S. businesses hungry for foreign-trade information; U.S. students looking to either study abroad or learn about the world; the half-million foreign students in the U.S.; foreign governments eager to recruit American skill; and the press—to cover stories relating to any of these audiences. TeleDiplomacy can also help embassies expand their relations with state governments and trade representatives in the U.S., says Stapleton-Ross.

What can businesses learn from this planned venture? If TeleDiplomacy attracts major embassies, it will be able to make a wealth of information available to companies—not just trade data, but also the key political and cultural information required for the intelligent conduct of business abroad. The service, called Electronic Embassy, also provides a model for how kindred businesses might cooperate to create a sea of information, instead of the tiny ponds that currently dot the Net map, becoming that much more visible and attracting that much more attention from potential customers.

TeleDiplomacy will provide embassies with mail, Gopher, and Web services, and will maintain servers on its own site, reducing an embassy's security exposure and offering the economies of scale that should come through shared computer resources. TeleDiplomacy will also train embassy staffs in doing research on the Internet.

For more information, call 703-486-1538. To get a sense of the kinds of information an embassy can make available on the Internet, visit the French embassy's Gopher (based in France) at **gopher://iep.univ-lyon2.fr:70/11/amb-wash.fr**. ◆

Netscape . . .

(continued from page 1)

Netscape Communication Corp., NCC, to avoid trouble with the National Center for Supercomputer Applications in Illinois, NCSA, holder of the Mosaic trademark. NCSA is the place where Mosaic was invented and the source of the developers who created Netscape.)

The statistics aren't representative, as the note to the table (p. 5). Still, a couple of facts stand out: Netscape is the hands-down favorite Web browser, and it is favored by both Windows and Mac users. On Unix systems, the character-based Lynx program still holds the lead, but on the whole Netscape's popularity has enabled

Windows to displace Unix as the platform of choice among Internet users.

All this is good news for the Microsoft Corp., makers of Windows, which is preparing a big new version, Windows 95, with built-in features for accessing the Internet, for release later this year. And Microsoft's recent decision to license Mosaic should jumpstart its Internet development efforts (see article on p. 2).

Factors favoring Netscape are that it's free, fast, and can send transactions securely. In addition, NCC has built alliances with MCI, Sun, and DEC, who will be reselling its software. Finally, by promising to make available the Netscape API (application programming interface), NCC shows that it is committed to helping developers create products that work with Netscape.

Can NCC keep its lead? Spry's Air Mosaic doesn't even make it to the list of top ten browsers (see table below). But Spry is striking back, with its new reseller program, its recent improvements to its browser, its alliance with Compuserve, and its upcoming incorporation of secure HTTP (from EIT) into Mosaic. IBM's WebExplorer and America Online's InterNetworks have garnered excellent reviews. Netcom, now a public company and eager to continue its breakneck expansion, will continue aggressively distributing its NetCruiser product, rumored to be going through a major upgrade that, sources say, will include the key features of Netscape. Finally, if Netscape can make short work of Spry, it is less likely to so easily dispose of Microsoft, which will soon be selling its own Mosaic (see article, p. 2). ◆

Browser Statistics for the Random Yahoo Link

These tables summarize which browsers were used by the 4,963 hosts making 23,038 accesses over 8 days (through Jan. 9) to the Random Yahoo Link, a CGI script that redirects a browser to a random link chosen from the tens of thousands in the Yahoo database.

Hosts, not accesses or people, are summarized in these tables. That is, a host gets only one vote (for its most recently used browser). This may in some sense underrepresent browsers that run on large multi-user Unix systems or via proxies, and perhaps overrepresent browsers accessed via terminal servers or other networks using dynamic address allocation. These tables were prepared by Ed Kubaitis. For more information, send e-mail to Kubaitis at ejk@uiuc.edu.

Browser Platform	Hosts	%
1. Windows	2447	49.3
2. Macintosh	1006	20.3
3. X11 [Unix]	670	13.5
4. Lynx [Unix]	482	9.7
5. Other	358	7.2

Browser Product	Hosts	%
1. Netscape	3194	64.4
2. Mosaic	886	17.9
3. Lynx	482	9.7
4. Osther	401	8.1

Top Ten Browsers	Hosts	%
1. Netscape (Windows)	2096	42.2
2. Netscape (Macintosh)	783	15.8
3. Lynx	482	9.7
4. NCSA Mosaic (X11)	352	7.1
5. NCSA Mosaic (Windows)	320	6.4
6. Netscape (X11)	315	6.3
7. NCSA Mosaic (Macintosh)	152	3.1
8. IBM WebExplorer	117	2.4
9. Other	109	2.2
10. NetCruiser	109	2.2

Some Informal Web Surveys

- **Yahoo** (http://www.cen.uiuc.edu/~ejk/bryl.html)
- **Jay Farrell's survey** (http://www.netaxs.com/~jayfar/sursays.html)
- **Creative Internet** (http://www.galcit.caltech.edu/~ta/browsers/browser.shtml)
- **Bob Allison's Survey Averages** (http://gagme.wwa.com/~boba/survey.html)
- **GVU Center Survey** (http://www.gatech.edu/pitkow/survey/survey-1-1994/)

Recycling Over the Net . . .

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selling such equipment could post information about what it is offering. GRN also provides an online directory of shipping and legal companies to facilitate the actual pickup and shipment of the equipment.

The service is tightly integrated with e-mail, a tool even more ubiquitous than Telnet. At each step while using GRN, users have the choice of either viewing the results of a database operation on the screen or receiving them in an e-mail message (subscribers must provide an e-mail address during the registration process).

The GRN server sits on the premises of Branch Information Services, an Ann Arbor, Mich., consultancy (listed in your *Guide* in the Malls and Storefronts section of Tab 1100). Sala turned to Branch after initially entrusting his service to a Princeton, N.J., company that attempted to implement the service as a WAIS database. WAIS (wide area information system) provides a method for searching vast text databases on the Internet, but the material Sala wanted to make available is structured and lends itself to more traditional database management via Telnet. Sala said he was also unhappy with the service and solution offered by the first consultancy. Jon Zeeff of Branch, he says, was more responsive, and he offered a better technical solution in less time.

Though the server's in Ann Arbor, Sala manages the database of leads remotely from Brookhaven, where he is also able to add, modify, and delete subscriber information. He sends changes to GRN's Web page and Telnet database via FTP to Ann Arbor, where Zeeff uploads them to his server.

Netrepreneur

Perhaps appropriately for an Internet entrepreneur, Enrico Sala spent 20 years as a professional sailor, specializing in ocean racing, before launching the Global Recycling Network in 1994. Born in Milan, Sala studied political science as a Fulbright scholar in the U.S. in the late 1960s. After 20 years sailing, Sala opened a yachting-services business in Italy. When his business fell off as a result of corruption and recession in Italy—and his millionaire clients started going underground, he says—he moved to the U.S. in 1992.

Encouraged by a Finnish friend to look into the business of recycling computers, Sala quickly saw the potential for a more general equipment exchange organized as a database and made available through networks. The Finnish friend is currently at work creating a GRN sister company serving Finnish supermarkets. In addition to his Finnish colleague and Ann Arbor service provider, Sala works with a copy writer in Connecticut and a hardware/software consultant in Massachussetts—communicating, across the company, on the Internet.

Telling the World

After going live in late November 1994, Sala counted some 350 subscribers, including those with trial subscriptions, in mid-January, each paying $30 a month. (Subscribers can either search for leads or post and maintain leads.) Sala has used several techniques for marketing his service, employing a mix of print and online channels.

First, he sent out "thousands" of paper press releases before and just after the service went live, which have garnered attention from as far as Australia. Sala is also using print to publicize his Internet service. Starting in February he will advertise in *World Waste*, a magazine with 100,000 subscribers, he says. And he has done mass mailings about GRN to companies listed in the various directories of dealers and recyclers available for the U.S. and other countries. In his survey he has found both a low level of current Internet connectivity among recycling businesses and a high level of interest in connecting in the near future.

On the Net itself, GRN signed on as a sponsor of O'Reilly's What's New page (formerly the NCSA What's New page—see the December 1994 newsletter). GRN will get a "billboard" on that page—a logo with a link to the GRN Web site (**http://grn.com**). O'Reilly claims that 100,000 people will see GRN's logo in its week of exposure. GRN will also be listed in the What's New page itself and also get a spot in the online Global Network Navigator (GNN) catalog. Finally, Sala has sent information about his service to newsgroups devoted to the import-export business.

Sala says that, because of his marketing efforts, large companies have expressed interest in GRN, including KMart, Kraft-General Foods, Walmart, and Warner Bros.

How it Works

All subscribers have full access to the entire system. The system's opening menu provides five choices, including Search and, of course, Help and Quit. The nature of Telnet necessarily limits the utility of online help, since a user can't open Help while searching for used equipment, for example, but would first have to quit the Search program, then choose Help, find the information (if it's available), remember the information, and return to the search. As a result, the written Help manual sent by regular mail to new subscribers is an essential tool. On the other hand, Branch designed simple interface for GRN, with short menus and clear onscreen instructions, minimizing the need to use Help, written or online, for many users.

From GRN's top menu a browser can find copies of the most recent GRN monthly newsletters, including the current one. The newsletters are based on newsfeeds from Reuters and other news services, massaged into an easy-to-read newsletter by a copy writer.

The December 1994 newsletter compactly presents global recycling information about, among other things, conflicting regulations within the European Union regarding the required amount of recycled fiber in paper, new uses for recycled cellulose from milk cartons in Japan, and nuclear fuel-recycling in Russia.

The core of the service is the leads database, and the unit of information is the "lead," a data record describing an item to be sold or bought.

Searching for leads requires entering as many as six pieces of information: whether you want to buy or sell; type of lead; and so on. The Help manual provides help in filling in the specific categories.

With "wild cards" (.*) or truncated words ("New" for all the American states beginning with "New") a user can begin a search broadly ("all leads in December everywhere"), then narrow the search for specific items ("telephone equipment offered for sell in December in New Hampshire"). Because GRN is new, the number of leads is still small and and the likely success of a narrow search is limited.

GRN remembers the last lead entered for a user ID, allowing a searcher to do multiple queries, zeroing in on the desired leads from search to search.

To post a new lead requires the user to enter additional information, including the quantity and value of the thing bought or sold and information about the company doing the buying or selling, such as number of employees and gross sales.

As a service to clients pursuing leads, GRN makes available via Telnet and e-mail a directory listing firms that specialize in shipping goods. Firms are categorized either as logistical (companies that handle the actual movement of goods) or legal (lawyers specializing in international trade and the like). A small manufacturer in Afghanistan could, for example, use the directory to get the name of Sardar Mohammed Omerzai, the contact person for an international shipping and forwarding agent in Kabul.

In February Sala will be offering GRN-Echo, a filtering "agent" that, for an extra fee, will look for leads for a subscriber and e-mail relevant leads directly, saving subscribers the time and bother of repeatedly conducting a database search.

Obstacles

Will it be prosperous sailing for GRN's Sala, a former yachtsman (see Netrepreneur, p. 6),or is there coral ahead? Sala says he doesn't have competition on the Internet, although some branches of the recycling business have fax- or BBS-based trade-lead services. IndustryNET (**http://www.industry.net**) does provide space for companies to sell used manufacturing equipment, but in the form of classified ads; Sala, by contrast, is trying to create a systematic and self-supporting market.

The biggest obstacle Sala's facing is the difficulty directly reaching potential trading partners/manufacturers. The problem is, they do not all have network connections, even in the U.S.

A more imminent danger is the limit to the number of users who can use GRN's Telnet server at the same time. This limit may throttle future expansion. It currently leads to fairly stringent timeout limits; the Telnet connection is terminated after a few minutes of inactivity.

The biggest obstacle Sala's facing is the difficulty directly reaching potential trading partners—manufacturers. The problem is, they do not all have network connections, even in the U.S. In the third world the problem is more intractable. Sala cites a small manufacturer in Ecuador who wanted to buy used textile equipment via GRN but lacked even a fax machine to communicate with the seller. As a result, for now, many companies wanting to use GRN must still rely on the very go-betweens in the shipping and brokerage business whose influence Sala wants to reduce. ◆

Reality Check:

Selling Information Over the Internet

*by Rosalind Resnick**

The last two issues of the newsletter presented articles on digital cash—the case for micropayments (by Arnold Kling, in December) and the mechanics of electronic cash (by Marianne Mueller, in January).

Here, entrepreneur Rosalind Resnick offers a reality check—a case of someone not quite succeeding in selling information electronically but creating business over the Internet by simply informing people about his service.

If Mike Walsh had a dollar for every time he's been mentioned in the media, he'd be a rich man. Actually, Walsh, the owner of Internet Info, a market-research firm in Falls Church, Va., isn't doing too badly—though it isn't because of the reports on commercial Internet activity he sells for a dollar and up each through his Internet storefronts at OpenMarket and First Virtual, two Web sites that provide business services on the Net.

"Sales on the Internet are insignificant," Walsh said by e-mail, but "contacts made are tremendous. Requests for consulting work are more than I can handle." Walsh's standard reports show trends in the commercial use of the Internet—the number of commercial domains created each month, the location of the new domains, the sectors of the economy in which the new domains are concentrated, and so on. For individual clients he does more detailed, custom analyses to clarify opportunities and trends.

Walsh's experience typifies that of many entrepreneurs trying to peddle information on the Internet—the Internet affords abundant, inexpensive publicity but relatively little in the way of direct sales.

"I got and continue to get sales from both the OpenMarket and First Virtual Systems," says Walsh. "More than I expected. I also got a lot of calls from people who didn't want to put up with the mechanics of the purchasing process. [But] I suspect that my sales would be ten times higher if people felt confident and familiar with entering their credit card info into the system."

Walsh's company was born by accident last year when he and several associates decided to scour the Internet for business opportunities. Walsh himself had been involved in four venture-capital-backed startups in the publishing and medical-technology areas. Walsh's ventures included Business Research Corp., which developed full-text and real-time databases for Wall Street and the financial community, and Pinpoint Publishing, which developed a fax-based news filtering service for the computer industry.

After attending several of what he calls "over-priced conferences" without finding any reliable Internet business statistics,

How It Works

Walsh sells information at two sites, Open Market and First Virtual. OpenMarket requires purchasers to open an account with the mall before using it. Using existing Web clients, customers select the information they want to purchase; payment information encoded in the URL directs a customer automatically to an OpenMarket "payment server," which authenticates the customer (verifies account information), processes the transaction, and further directs the customer to the information. OpenMarket works with multiple encryption devices and multiple types of payment processing (credit card, debit card, bank account, etc.).

First Virtual's solution (described in the January newsletter) also works with existing client software, but relies on e-mail, not the Web, and so is available to more people. Accounts are required with First Virtual, as with Open Market, but First Virtual encourages anybody to establish First Virtual "stores," and doubts that in the long run successful electronic cash technologies can succeed if they're proprietary or mall-specific. A final difference between the two solutions is that First Virtual sells information goods only, partly to reduce a merchant's liability, while OpenMarket sells anything, although for now most of its vendors sell digital goods.

**Rosalind Resnick is publisher of* Interactive Publishing Alert, *coauthor with Dave Taylor of the* Internet Business Guide *(SAMS), coauthor of* Using the Internet, 2nd ed. *(Que), and author of* Exploring the World of Online Services *(Sybex).*

Walsh and his colleagues decided to compile some of these statistics, but strictly for internal purposes. Walsh got his big break last June when Peter Lewis, *The New York Times*'s Internet reporter, quoted some statistics that Walsh had posted to the Internet's com-priv discussion group to settle a dispute about domain name registrations.

Business—gathering Internet statistics for companies—hasn't let up since. Regular postings of excerpts from his standard analytical reports to the net-happenings, com-priv, and inet-marketing lists plus a mailbot provided by Rob Raisch of the Internet Company and Web space donated by Mike Bauer of The Internet Group have helped make Internet Info a valuable source for information about the extent and character of commercial use of the Internet.

Though Walsh now sells his reports through companies such as First Virtual, he says that, originally, he wasn't really trying to sell the information at all, though he tried briefly over the summer to sell hard copy listings through a fullfillment house. Then, in August, Gail Grant, who then was running Digital Equipment Corp.'s Alpha Web site, contacted him and told him about a new mall called OpenMarket.

"I wasn't convinced that the demographics of the Net would allow the sale of information. But the technology did allow "micropricing"—selling individual documents for less than $10—which you could never efficiently do in the hard-copy, credit-card world. "So I decided to put some information up and microprice it," Walsh said.

Then, Walsh saw an announcement for First Virtual, a more general solution to the electronic-cash problem, and decided to sell his information there, too. Walsh says he's satisfied with the sales volume he's getting but believes that sales could be higher if the mechanics of online transactions were simpler and users had more confidence in the Net's security (see the box, p. 8). For now, Walsh believes that the Internet is not quite ready for prime-time retailing.

"You can probably market gene-splicing equipment to biotech firms fairly effectively right now," Walsh says, "but I wouldn't try selling wedding dresses to young brides." (See box below.)

To check out Internet Info's locations on the Net, type the following URLs in your Web browser: **http://directory.net/netinfo** (OpenMarket); **http://www.fv.com/access/by-seller/Internet_Info** (First Virtual). ◆

What Won't Sell on the Internet

Tenagra, an Internet consulting firm (see the new entry in your *Guide* under Consultants in Tab 1100), uses a seven-criteria checklist with potential clients to determine whether their product is a good match for direct sales over the Internet.

While meeting one or more of these criteria is by no means a guarantee that a product will sell well on the Internet, Tenagra advises its clients that they *will have a much more difficult time if they do not meet at least one of the criteria:*

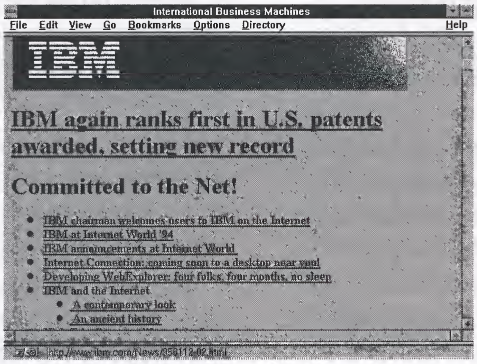
- ✓ *The product appeals to the technologically savvy.*
- ✓ *The product is computer-related.*
- ✓ *The product appeals to a broad segment of the Internet user base (typically but by no means exclusively educated males under 40).*
- ✓ *The product appeals to a wide geographic audience.*
- ✓ *The product is a specialty item that can be otherwise difficult to locate.*
- ✓ *The product purchase is an "informed purchase" (is typically purchased based on information rather than hyperbole).*
- ✓ *The product can be purchased over the Internet less expensively than otherwise.*

Examples. Internet Shopping Network sells computers on the Web, meeting criteria 1, 2, and sometimes 7, while the popular tennis store that Tenagra sponsors on the Web meets criterion 3.

Catches of the Month: Software on Parade

This month's update pages bring a raft of new entries in the Software category. Especially interesting for anyone just connecting to the Net are the company pages from the vendors of Internet software: Spry, Netscape, Quadralay, Net Manage, FTP, and Spyglass. Other companies already represented in the *Guide*'s resource section (Tab 1100) have *become* Internet software vendors, notably IBM and Microsoft.

What do software vendors do with their Internet presence? All of them publicize products, of course, but a few go beyond marketing in this very limited sense. Qualcomm (makers of a highly popular mail program for Windows and the Mac) uses its site to communicate with its employees, providing information about benefits and the like. Quadralay, makers of Web client, server, and development products, practices old-fashioned boosterism by providing a presence for companies in its hometown, Austin, Texas.


International Business Machines
File Edit View Go Bookmarks Options Directory Help
IBM

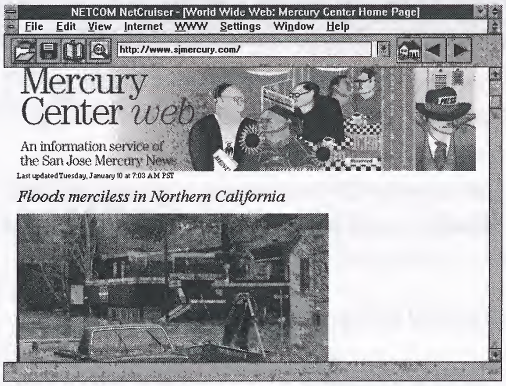
IBM again ranks first in U.S. patents awarded, setting new record

Committed to the Net!

- IBM chairman welcomes users to IBM on the Internet
- IBM at Internet World '94
- IBM announcements at Internet World
- Internet Connection: coming soon to a desktop near you!
- Developing WebExplorer: four folks, four months, no sleep
- IBM and the Internet
  - A contemporary look
  - An ancient history

http://www.ibm.com/News/950112-02.html

From this home page you would not know that IBM used to make only mainframe computers!


NETCOM NetCruiser - [World Wide Web: Mercury Center Home Page]
File Edit View Internet WWW Settings Window Help
http://www.sjmercury.com/
Mercury Center web

An information service of the San Jose Mercury News

Last updated Tuesday, January 10 at 7:03 AM PST

Floods merciless in Northern California

Read all about it—The San Jose Mercury News *goes online*

In a radical experiment with direct distribution, Oracle, the maker of database server software for the corporate world, now lets potential users download "90-day Free Trial" copies of the Windows NT Workgroup Server and Personal Oracle 7 products. (Personal Oracle 7 weighs in at 16.5 Mb—a lot to download!)

Customer service is a prominent feature of all the software sites. Farallon makes technical papers available at its site. Competitors in the browser market, Spry and Netscape, put abundant help information online, a couple of clicks from their home pages. For Spry's broad range of products—including all the Internet tools, in both stand-alone and networked versions—you can search for technical and suport information using a query form.

Companies offering technical how-to and trouble-shooting information in this way not only make products easier to use, but also relieve some of the routine work of their customer-service people.

Most vendors, finally, put in fun stuff as well—links to outside sites of notable, prurient, or other interest. Netscape, for example, has links to "cool sites."

Breaking News

The *San Jose Mercury* now presents a full-text online version of its newspaper, Mercury Center, complete with photos, breaking stories, editorials, classifieds, and advertising collected in the Merc's own mall. The first advertisers include large companies such as DelMonte, Coldwell Banker, and Netcom.

From the home page you can link to Netscape's site and download the Netscape Web browser for a free evaluation—good publicity, if any is needed, for the Net's leading browser. You can also get more information about the Merc's NewsHound service, which is currently in development. With NewsHound you will be able, for a fee, to do automatic searches of the major wire services for stories about companies, subjects, or people you need to keep up with. ◆

Help Desk

*By Kevin Savetz**

Q. Many companies these days are providing information automatically with addresses like info@bigcompany.com. I would like to set up an e-mail address that will automatically respond with information about my company too. How can I do that?

A What you're looking for is an electronic mail *autoresponder*, a program that sifts through your e-mail as it arrives to find messages that are requests for specific information. If it finds any, it answers them without any human intervention. Autoresponders aren't difficult to set up, and they can provide your customers with just the information they want quickly.

I use an autoresponder that gives out information about my book to anyone who requests it. When I receive mail with a subject line of "send YIC," the program automatically sends my prewritten message so I don't have to send the messages myself. Any messages that don't have that subject line end up in my regular electronic mailbox. This is a plus because you don't need to pay for an extra e-mail address for the autoresponder; it can share an address with you.

If you sell a product whose price fluctuates daily, you might be unwilling to print prices in a magazine advertisement. A potential customer might see your ad in a magazine and send e-mail to you with the one-line command "send prices." Users on the Internet can get information—a canned message with current prices—in minutes.

Autoresponders work because they can listen for incoming e-mail day and night. So, they must live on a computer that is perpetually connected to the Net. This generally means that it needs to run on your service provider's Unix computer rather than your own PC.

There are many autoresponder products available, and much shareware as well. My favorite e-mail autoresponder is EMBOT, a powerful, self-configuring program that works on any Unix system. It can respond to requests in the subject or the message or the body, and all mail that is not intended for EMBOT is automatically delivered to you. It can be configured to reply to any number of different commands, and can generate statistics about how many people requested your information. EMBOT is shareware: the cost is $25 for an individual or $100 for a small business. For more information, send e-mail to "embot@northcoast.com" with a subject line of "send help."

Q How can I find out how many people are accessing my Web site? What is a "hit" on a Web server?

A Just about all World Wide Web servers have an option that forces them to make a log of that site's usage. Typically, they'll make note of which Web pages are being accessed, where the user requesting the information is from (not the e-mail address but the IP address, which will need to be converted into domain names), and the time and date the pages were accessed.

Those raw log files themselves aren't very informative or interesting to read, but they can be processed and turned into more palatable information. By running those log files through a special program for generating usage statistics, you can get a clear picture of what pages are being accessed, who is looking at them, and when they are doing so. You can find out information such as your site's daily and hourly transmission statistics, what countries your users come from, and which files were most (and least) popular.

A statistics sheet from a Web site can be rather intriguing. Since the Internet is a global network (and true hackers never sleep, anyway) Web sites dole out information 24 hours a day. The Web server that my home page lives on is busiest between 11 AM and 4 PM Pacific time, but remains active into the wee hours of the morning. Mondays and Tuesdays are the server's most popular days.

Each time someone looks at a Web page, it counts as one "hit." An especially popular Web sites might see upwards of 10,000 hits per day. Typical Web sites might record from 1,000 to 2,000 daily hits. A "hit" means the page was looked at once. 2,000 hits doesn't necessarily mean that 2,000 people saw your page; it means that it was seen 2,000 times. It's possible, although unlikely, that one person alone "hit" your page 2,000 times!

My Web server runs on a Mac, and I use a program called WebStat to generate the statistics files. If you use another server, you'll probably need a different stats program, such as getstats, available from Enterprise Integration Technologies (**http://www.eit.com/software/getstats/getstats.html**). From this page you'll find links to other statistics-generating packages available on the Internet. Check the documentation for your Web server to find out which stats program you can use. ◆

The Help Desk is a regular feature of this newsletter. Questions are answered by Kevin Savetz, a contributing editor of the* Guide *and author of* Your Internet Consultant *(SAMS, 1994). You can submit questions care of David Peal, Editor, at (202) 739-9541 or* **dpeal@ix.netcom.com.

Calendar

WebWorld '95. Jan. 30 - Feb. 1, 1995. Orlando, Fl. Sponsor: DCI. Information: send e-mail to SEMINAR @dci-inc.com, call 508-470-3880, or visit the Web page, **http://199.232.60.132/DCI/**. This is the first of a new conference series, launched by a major conference organizer.

Law of Electronic Commerce: Online Seminar. Information: call 800-466-4595 or 717-258-1816 or send e-mail to **bwrigh01@reach.com**. An online seminar (conducted on Compuserve and gatewayed to the Internet) led by attorney Benjamin Wright, sponsored by First Virtual, and organized by the National Computer Security Association. The seminar runs for 30 days and is devoted to the legal aspects of electronic contracts, EDI, electronic signatures, and e-mail privacy. Starting Jan. 30, March 13, and May 9.

Internet Society Symposium on Network and Distributed System Security. Feb. 16-17. San Diego, Calif. Information: call Gloria Carrier at 703-883-4508 or send e-mail to **gcarrier@mitre.org**.

GroupWare 95. March 5-8. Boston, Mass. Information: call 800-247-0262.

Marketing on the Internet. March 2-3 (Boston); March 6-7 (New York); March 9-10 (Washington, D.C.). Presented by Target Marketing of Santa Barbara, sponsored by Sun Microsystems. Information: call 800-549-4659 or send e-mail to **staff@targeting.com**.

Publishing, Marketing, and Advertising on the Internet. March 20-22. Presented by Telestrategies. Information: call 703-734-7050.

Spring Internet World. April 10-13. San Jose, Calif. Information: call 800-632-553 **Wide Web Conference.** April 10-14. Fraunhofer Institute for Computer Graphics, Darmstadt, Germany. In English. Information: **http://www.igd.fhg.de/www95.html**.

WebWorld '95. April 19 - 21. Santa Clara Convention Center, Santa Clara, Calif. Organized by: Digital Consulting Inc. Information: call 508-470-3880 or send e-mail **SEMINAR@dci-inc.com, http://199.232.60.132/DCI**.

AusWeb95, the First Australian WWW Conference. April 29 to May 2. Ballina Beach Resort, Ballina, New South Wales, Australia. Information: via the Web at **http://www.scu.edu.au/ausweb95/index.html** or send e-mail to Sheridan Daley at **sdaley@scu.edu.au**.

INET 95—The Internet: Toward Global Information Infrastructure. Internet Society's 5th annual convention. June 26-30. Honolulu, Hawaii. Information: send e-mail to **inet95@isoc.org**.

If you have a calendar item that you would like listed, please contact David Peal, Editor, at (202) 739-9541 or* **dpeal@ix.netcom.com. ◆

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